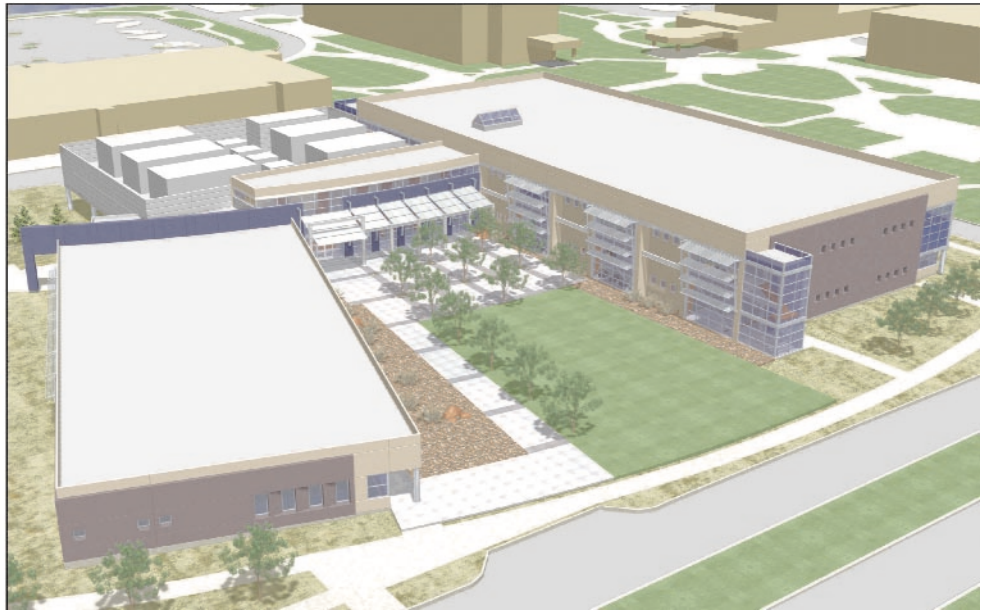


Distributed Information Systems Laboratory

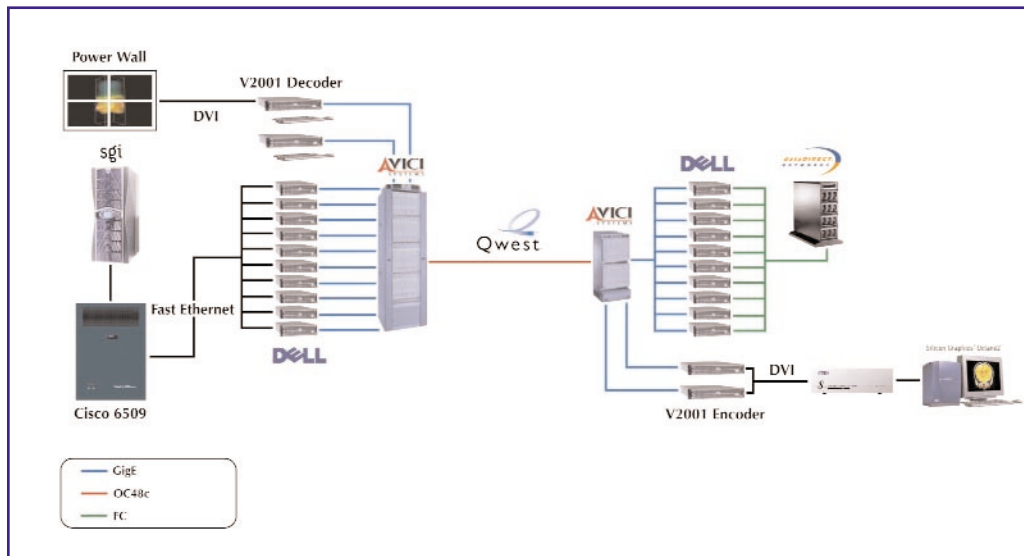


The new Distributed Information Systems Laboratory (DISL) at Sandia/California will develop technologies for enabling collaborative, high-performance computational work across the nuclear weapons complex. Technologies developed in DISL will link National Nuclear Security Administration (NNSA) facilities as part of the NNSA Advanced Simulation and Computing (ASC) strategy for an integrated simulation-based design and manufacturing environment. ASC, formerly the Accelerated Strategic Computing Initiative (ASCI), has led creation of simulation and prototyping capabilities based on advanced weapon codes and high-performance computing.

To enhance design and manufacturing productivity, DISL brings together technologies essential for creating the future distributed

information infrastructure of the nuclear weapon complex. Research and development in DISL will focus on distributed systems, visualization, collaborative technologies, networking, and information security in workspaces and labs designed for information systems research.

Research and development staff in computer science and engineering will create and test advanced distance and distributed computing and visualization solutions. Weapon engineering teams will use these technology advances in DISL as they work in areas such as systems engineering, design definition, and structural and thermal analysis. Based on experience in DISL, developers will refine these technologies for broader deployment throughout the weapons complex.



Sandia and its research partners demonstrated tera-scale visualization techniques over a 2.4 Gbps Wide Area Network at the SC2002 conference. DISL will provide a 1300 square-foot lab dedicated to network research and a 700 square-foot lab for visualization research.

With its capacity to support both classified and unclassified work, DISL will be easily accessible to visitors and on-site personnel. The 71,500 gross-square-foot facility will include an infrastructure designed to improve teaming and interaction with simulation and experimental results, and features built in to allow for future upgrades as technologies are developed. Equipment available to 130 employees and over 30 visiting researchers will include advanced visualization systems, enhanced videoconference equipment, network and communications systems, and collaborative environments.

Sandia/California's current visualization design center provides high-resolution visualization and secure, remote collaboration capabilities. DISL will include a next-generation visualization design center and project rooms equipped with advanced visualization and remote collaboration technologies.



Distributed Information
Systems Laboratory



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